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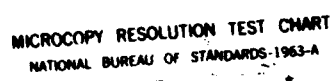
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AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT PERSONALITY INVENTORY SELECTION FOR UNDERSTANDING LEADERSHIP STYLES

MAJOR ALAN M. GARDNER

87-0920

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REPORT NUMBER 87-0920

TITLE PERSONALITY INVENTORY SELECTION FOR UNDERSTANDING LEADERSHIP STYLES

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<p>The ACSC is considering adopting a new personality inventory to replace the 20 question survey used in its leadership instruction. The study justifies using personality inventories to identify leadership styles and it compares the <u>Sixteen Personality Factor Questionnaire</u> and the <u>Myers-Briggs Type Indicator</u> for consideration by the ACSC. The study concludes the MBTI has better interpretive value for the understanding of leadership styles.</p>			
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PERSONALITY INVENTORY SELECTION
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Presented to
the faculty of the Graduate Division
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In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Counseling
and Human Development

by
Alan M. Gardner

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PREFACE

This paper is serving the dual purpose of completing the Air Command and Staff College (ACSC) research requirement and partial fulfillment of the requirements for a Master of Science degree in Counseling and Human Development at Troy State University in Montgomery (TSUM). The paper is written in American Psychological Association style as required by the TSUM graduate school.

The author's gratitude goes to the Air University Library staff for their assistance in obtaining research reports, and to Lieutenant Colonel Gail Arnott for his early guidance and assistance with the Sixteen Personality Factor Questionnaire. Their assistance saved valuable time during the research for this paper.


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REPORT NUMBER 87-0920

AUTHOR(S) MAJOR ALAN M. GARDNER, USA

TITLE PERSONALITY INVENTORY SELECTION FOR UNDERSTANDING LEADERSHIP STYLES

I. Purpose: To compare personality inventories for consideration by the Air Command and Staff College (ACSC) for adoption in the leadership curriculum.

II. Problem: The ACSC is considering adopting a different personality inventory to replace the 20 question survey used now. Is the personality inventory useful in determining leadership styles and how to influence others? What is the best inventory to use? The Sixteen Personality Factor Questionnaire (16PF) and the Myers-Briggs Type Indicator (MBTI) are the two inventories selected for comparison after extensive library research. The MBTI was used this year at the Air War College, Maxwell AFB, for the first time, but no comparison of other inventories was made. The 16PF was used in 1983 in an ACSC study (Santeens & Walker) on early promotees, and it received favorable comments in that study.

III. Comparison and Findings: The two inventories were compared in the areas of validity, reliability, norms, administration, interpretation and cost. No significant differences were found except in interpretation and norms. The 16PF identified leadership factors; however, individual interpretation by an expert is recommended. The MBTI does not require individual interpretation; in fact, the inventory provides a computerized interpretation if requested. The Keirsey & Bates book, Please Understand Me, also assists in interpretation of leadership styles identified in the MBTI. The MBTI norm data were not as extensive

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as the 16PF; however, such information should be conducted on each population separately to ensure accurate data. Although the 16PF norm sample was more extensive and perhaps more representative, the limited norm sample did not invalidate the MBTI.

IV. Conclusions: The MBTI best meets the objectives of the ACSC leadership curriculum. It possesses superior ability to interpret personality types to foster growth of leadership skills through an understanding of each student's personality type.

V. Recommendations: The ACSC should adopt the Myers-Briggs Type Indicator (MBTI) for use in the leadership curriculum. The ACSC should evaluate Air War College information on the MBTI. The ACSC should purchase the book Please Understand Me for use by ACSC students. The ACSC should monitor reliability and validity data of the MBTI when administered.

INTRODUCTION

Problem

The Air Command and Staff College (ACSC) at Maxwell Air Force Base, Alabama, administers a personality survey to each member of the ACSC class. The 20-question personality survey is used to determine the leadership style of each student as part of the leadership block of instruction. According to Major C. Holsen (personal communication, September 25, 1986) in the leadership branch, the college would change from the present survey to a more suitable personality inventory if funds were available to purchase one for an ACSC class. The purpose of this paper is to compare two available personality inventories and recommend one for consideration by the ACSC. Since funding will be a constraint for purchase of a commercial personality inventory, a justification for the inventory is included in the study.

Background

The objective of this particular block of leadership instruction is "Comprehend the relationships between communicative skills, influence, and power" (Holsen, Webb & Mallett, 1986, p.82). The instruction focuses on the use of power and the needs of followers. Personality style is considered a vital link in the communication process. The

overview of the block of instruction states "the ability to influence is related to personality style" (Holsen, Webb & Mallett, 1986, p.83). The overview further states understanding personality style, one's value system, and observing simple guidelines will increase effectiveness in dealing with people.

The Air War College at Maxwell Air Force Base uses the Myers-Briggs Type Indicator (MBTI) to assist students in identifying their personality style. Major T. McCarthy, an ACSC student, helped the AWC implement their program this year. According to Major McCarthy (personal communication, January 5, 1997) a comparison of other personality inventories was not conducted.

Since AWC did not conduct a comparison, this author conducted an extensive survey of literature in the library on the MBTI and other alternatives to the MBTI. Two possible candidates were uncovered during the literature review. These inventories were the Minnesota Multiphasic Personality Inventory (MMPI) and the Sixteen Personality Factor Questionnaire (16PF).

Graham & Lilly (1994) rate the MMPI as the most preferred personality inventory. However, Buros (1978) and Graham & Lilly (1994) state the MMPI is used to measure abnormal behavior. Because of this reason the MMPI was quickly disregarded as a viable alternative. The MMPI is being revised, and it may provide an alternative in the future.

The 16PF received favorable reviews in Buros (1978) as a

personality research instrument. An ACSC project conducted by Santens & Walker (1983) on early promotees using the 16PF drew praise for its research value in their study. Several other inventories were reviewed, but the 16PF was the choice for comparison because of its favorable reviews and the Santens & Walker use at ACSC.

Sixteen Personality Factor Questionnaire (16PF)

The 16PF was published "to meet the demand of research psychologists for a personality-measuring instrument validated with respect to the primary personality factors, and rooted in basic concepts in general psychology" (Cattell, Eber & Tatsuoka, 1970, p.13). According to Cattell & Eber (1972) the 16 factors are completely independent.

The test consists of 187 items and includes 10 to 13 items for each of the 16 personality factors. The 16 primary factors are: (1) reserved vs. outgoing, (2) less intelligent vs. more intelligent, (3) affected by feelings vs. emotionally stable, (4) humble vs. assertive, (5) sober vs. happy-go-lucky, (6) expedient vs. conscientious, (7) shy vs. venturesome, (8) tough-minded vs. tender-minded, (9) trusting vs. suspicious, (10) practical vs. imaginative, (11) forthright vs. shrewd, (12) self-assured vs. apprehensive, (13) conservative vs. experimenting, (14) group-dependent vs. self-sufficient, (15) undisciplined self-conflict vs. controlled, and (16) relaxed vs. tense (Santens & Walker, 1983, p.4).

These 16 primary factors were derived by the author, Raymond B. Cattell, from 3000-4000 terms describing different personality traits (Cattell & Bucher, 1968).

Myers-Briggs Type Indicator (MBTI)

The MBTI is a 126-item forced-choice inventory authored by Katharine C. Briggs and Isabel Briggs Myers (Buros, 1978).

The purpose of the Indicator is to implement Jung's theory of type [1923]. The gist of the theory is that much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain basic differences in the way people prefer perception and judgment. . . . The Indicator aims to ascertain from self-report of easily reported reactions, people's basic preferences in regard to perception and judgment, so that the effects of the preferences and their combinations may be established by research and put to practical use (Myers, 1962, p.1).

The MBTI has four basic combinations (extraversion or introversion [E-I], sensing or intuition [S-N], thinking or feeling [T-F], judgment or perception [J-P] which determine an individual's personality (Myers, 1962).

The actual criteria used in the comparison of the 16PF and the MBTI are described later in the study. However, before beginning the actual analysis of the two instruments, a look at the reason a personality inventory in leadership instruction is necessary.

JUSTIFICATION

Know the enemy and know yourself; in a hundred battles you will never be in peril. When you are ignorant of the enemy but know yourself your chances of winning or losing are equal. If ignorant both of your enemy and of yourself, you are certain in every battle to be in peril (Sun Tzu [translated by Griffith], 1982, p.84).

Although written over two thousand years ago, Sun Tzu's words hold true today. Leaders must know their strengths and weaknesses to lead others in combat. The US Army's Field Manual 22-100 states "To lead others successfully, you must know about people and human nature; but before you can understand other people, you must know yourself" (Department of the Army, 1983, p.134). Leaders must be secure in their own beliefs, and they must fully develop identified strengths. The difficulty with self-evaluation is the inborn bias prevalent in such appraisal. How do we know a certain trait is a strength or a weakness? Do we perceive a weakness as a strength? FM 22-100 (Department of the Army, 1983) has excellent examples of leadership styles and traits used by successful leaders. Several other studies are also available on leadership to assist in the identification of leadership traits.

In 1985 an Officer Personnel Management Study Group released its study Leadership in Combat: An Historical Appraisal (Hamburger, K. E. et al, 1985). This group studied successful

and unsuccessful leaders in combat. It found successful leaders had common qualities. While emphasizing the fact leaders were the deciding factor in unit cohesion, it pointed to the traits of aggressiveness, audacity, vigorous execution of orders and refusal to accept defeat. Unsuccessful leaders were indecisive and less intense than their successful counterparts. The study also stated that an individual's personality traits which made him a successful leader were present throughout his career. Further, "Those essential qualities of personality which make a General Officer a successful leader in combat are discernible, if less developed, early in his career" (Hamburger et al, 1985, p.10). An ACSC research project studying unique personality characteristics of Air Force officers selected for early promotion (Santens & Walker, 1983) appears to confirm this view.

Santens & Walker (1983) administered the Sixteen Personality Factor Questionnaire (16PF) and a demographic questionnaire to 221 majors attending ACSC. Fifty-seven of the majors were early selectees for promotion. The study compared scores between the early selectees and those promoted on time. Comparison of the 16PF scores showed three significant differences between the groups.

First, the early promotees scored higher in the tendency to be outgoing, warmhearted, easygoing and interpersonally participative. The finding that this group was "easygoing" appears to contradict the findings of the Hamburger, et al (1985)

findings. While this may be the case, other possibilities are likely. The trait "easygoing" may be a natural occurrence of the work environment or a social survival skill.

The second finding was early promotees were more assertive, aggressive, stubborn, and competitive. This finding causes few surprises since these traits are often associated with military officers.

Third, the early promotee was higher in the tendency to be suspicious or hard to fool. This type of individual is more critical of the information received, and it is analyzed more carefully.

A complete profile of the early promotee derived from this study would be an alert, intelligent and aggressive officer. The officer follows regulations and pays attention to details, but the early promotee still remains flexible although stubborn at times. The early promotee balances mental agility and social adroitness with hard work and dedication.

A study by Batlis & Green (1979) explores leadership styles and related personality attributes. This study sought to determine differences between people whose leadership style tended to be people- or task-oriented. A third or "balanced" style group developed out of the study. The people who favored this balanced approach had many of the same traits of the successful leader as described in the Army leadership study, and they had many of the same characteristics of the early promotee

officers as described in the Santeens & Walker (1983) study. The balanced group were found to be more tough-minded, practical, analytical, cautious, and group-dependent.

These three studies indicate successful leaders have common measurable personality traits. Every leader may not have all the traits, but many of them will be present. This does not doom an individual lacking in key traits. Shertzer & Linden (1979) state personality attributes can be understood only when taken in relation to the personality as a whole. Results of personality tests change as people change, and personalities often undergo change (Anastasi, 1976). As with most tests, personality tests only take a snapshot of an individual. This snapshot may only capture a small aspect of a person's true personality.

Keirsey & Bates (1978) take the concept of personality traits further by stating these traits are a function of larger measurable personality types. An entire chapter of their book, Please Understand Me, is devoted to how personality types affect leadership. According to Keirsey & Bates, leaders can enhance their leadership ability by understanding the strengths and weaknesses of their personality type and that of their followers. An example given by Keirsey & Bates (1978) is the manner in which a leader shows appreciation for excellent work. Some personality types are motivated by personal recognition of their work by a handshake and a few encouraging words. Other personality types are motivated by increased responsibility. A leader

uncomfortable with personal expressions of gratitude or unable to share responsibility may miss the opportunity to further motivate a subordinate toward better efficiency and self-esteem.

Another hypothetical example cited by Keirsey & Bates (1978) is the leader possessing strong organizational skills, but weak in creativity and imagination. By recognizing this weakness the leader can solicit the advice of a creative member of the organization, and the leader can overcome an apparent weakness. Commercial businesses use this technique to get the most out of their employees.

Peters & Austin (1985) cite several examples in their book A Passion For Excellence of companies forming teams with people of diverse talents. These teams tackle difficult problems troubling the company or the teams are given free reign to develop new products. The 3M Company uses teams effectively, but they also allow for the brilliant engineer to work independently. Innovative developments from this independent research may be shifted to a team if the engineer is halted by a problem. 3M takes advantage of the team contributors and the free-thinker to get new products in production and on the store shelves quickly and efficiently. Such a concept has application for the military services and their leaders.

Understanding one's leadership style has an immediate application for ACSC students. Upon graduation from ACSC many of the officers will receive leadership positions requiring them to

lead and motivate others. For pilots accustomed to responsibility for only themselves and a multi-million dollar aircraft, leadership of a hundred or more airmen and officers can come as quite a shock. Many of the people they will lead will not think exactly as they do. Recognizing this fact and not being intimidated by it is important. As mentioned in Keirsey & Bates (1978), people are different; and they are motivated by different rewards. Knowing how to use leadership skills to influence people is key to mission accomplishment and long-term morale. Knowing what motivates people and knowing their strengths can benefit the unit. A little thought given on personality strengths and weaknesses before assigning members to a team can mean the difference in a fully successful operation or one not so successful.

COMPARISON AND FINDINGS

General

Six criteria were established by the author to compare the two personality inventories. Selection of these six was based on accepted assessment criteria and the particular needs of the ACSC instruction. The six are: validity, reliability, norm sample, administration, interpretation, and cost. A brief description of the purpose of each item will be made along with a criteria for selection comparison. Following the description the data of each inventory will be presented and a finding made.

1. Validity: "A valid measure is one that is accurate and that predicts future behavior efficiently" (Shertzer & Linden, 1979, p.100). According to Shertzer & Linden few tests yield validity coefficients greater than .70 out of a perfect 1.0. These authors also state a score of .50 is a high score for an interest test. Therefore, the criteria for comparison is .50.

16PF: The authors of the 16PF manual claim a validity score of .67 (Cattell & Eber, 1972). Graham & Lilly support this claim by reporting scores of .55 to .63 for validity.

MBTI: A single validity score for the entire MBTI is not possible. The MBTI uses related-pair scores (i.e. E-I, S-N, etc.). By pairs the validities are: EI-.79, SN-.58, TF-.60, and JP-no score. (The JP pair is not a Jungian factor, and it was

added by the authors of the MBTI. Therefore, no score is listed for the JP pair.)

Finding: Both inventories scored above the criterion of .50. The 16PF scored slightly higher than two of the three MBTI scored pairs. The fact that the JP pair is not scored certainly casts some doubt as to its validity.

2. Reliability: Reliability is the accuracy or precision of an instrument. The reliability or accuracy is measured by demonstrating that the same response can be reproduced (Shertzer & Linden, 1979). A method of measuring reliability is the "test-retest" method. In this method, the test is administered to the same group on two separate occasions following a brief time interval. The results are measured by stability-equivalence coefficients. According to Shertzer & Linden a coefficient of .50 is acceptable for a personality inventory.

16PF: The 16PF manual (Cattell & Eber, 1972) lists .75 as the reliability coefficient. Buros (1978) supports the manual with a reliability coefficient of .70.

MBTI: The reliability coefficient scores for the MBTI range from .69 to .83 (Carlson, 1985).

Finding: Both inventories scored above .50. There is no significant difference between the scores of the MBTI and 16PF.

3. Norms: Norms refer to the demographic data of the test group

on which the validity and reliability are based. Ideally the norms for use by the ACSC would include male and female, military officers approximately 35 years old. According to Shertzer & Linden (1979), the sample size should be 300 or greater to be credible.

16PF: According to Buros (1978) the 16PF has nine sets of norms which take into consideration age, sex geographic region, family income, race, and occupation. The closest occupation to military officer was airline pilot. Sample size of the norms ranged from 229 to 5,077.

MBTI: According to Myers (1962), the MBTI has seven sets of norms, and these samples were limited to high school and college students in the Northeast. Sample size of the norms ranged from 240 to 2389.

Findings: The norm data from the 16PF were more extensive in both size and population sample.

4. Administration of the inventory: Administration of the inventory refers to the ease of test completion and the length of time required to complete the test (inventory). Ideally the inventory would have instructions that allowed self-administration since the inventory would be completed on a take-home and return basis. Scoring would be done by computer. Completion of the inventory should take no longer than 45 minutes.

16PF: Buros (1978) states that completion of the inventory should take 50 minutes. Shertzer & Linden state 50-60 minutes are required to take the inventory, and they further state that instructions for the 16PF are easy to understand.

MBTI: According to Buros (1978), the MBTI can be finished in 30-40 minutes, and the directions and questions are easy to understand.

Findings: The MBTI can be completed in approximately one-third less time. Both inventories are suitable for self-administration.

5. Interpretation: This factor is extremely important since the true value of the instrument is the information it provides the user. In this case the user is the individual ACSC student. Ideally a composite of the user's personality style is given in the interpretation. The interpretation should be done easily without the need for a trained expert to interpret each inventory.

16PF: According to Buros (1978) the 16 PF provides individual scores which require interpretation by an expert. Shertzer & Linden support this statement when they state "The 16 PF should be interpreted only by those persons who have had professional training and supervised experience in objective personality assessment" (1979, p.342).

MBTI: Shertzer & Linden state the items on the MBTI are

nonthreatening and "Descriptions presented for the various types tend to be positive and optimistic. . . ." (1979, p.327). A computerized interpretation of the scores is provided with the MBTI if requested. Keirsey & Bates (1978) offer an excellent interpretation of the personality types found in the MBTI results in their book Please Understand Me.

Finding: The 16PF requires an experienced professional to interpret its scores. The MBTI is easily interpreted and its personality types can be further interpreted by Keirsey & Bates.

6. Cost: This factor refers to the total expense for questionnaires, answer sheets, and interpretation if available.

16PF: According to Buros (1978), cost is \$5.00 per subject.

MBTI: According to Buros (1978), cost is \$5.00 per subject.

Finding: There is no difference in cost between the two inventories.

CONCLUSIONS

The 16 PF compares favorably to the MBTI with regards to validity, reliability, administration, and cost. It exceeds the MBTI in norm sample population. Its weakness is the necessity for an expert to interpret the instrument.

The MBTI's weakness is its norm data. The localized norms cast some doubt as to both the validity and reliability of the MBTI for use at ACSC; however, this does not mean it is invalid and unreliable. It simply means more study is necessary to establish the validity and reliability for the ACSC population. The strength of the MBTI is its ease of interpretation and nonthreatening personality descriptions. This type of personality inventory lends itself to the ACSC atmosphere. The support of Keirsey & Bates (1978) in the interpretation of personality styles certainly gives additional weight in favor of the MBTI.

The MBTI provides the best interpretive data to foster growth of leadership skills through an understanding of each student's personality type and how to influence other personality types.

RECOMMENDATIONS

1. The ACSC should adopt the MBTI for use in the leadership block of instruction.
2. The ACSC should conduct an evaluation of the Air War College results with the MBTI.
3. The ACSC should purchase the book Please Understand Me for loan to students during the leadership block of instruction.
4. The ACSC should monitor reliability and validity data of the MBTI when administered.

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